

Notice of Allowability

Application No.

10/038,066

Examiner

Harry D Wilkins, III

Applicant(s)

CHEN ET AL.

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 8 March 2004.
2. ☒ The allowed claim(s) is/are 1-24 and 40-51.
3. ☒ The drawings filed on 03 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 020604, 031004, 031704, 041604
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 030304
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brian Hrna on 28 April 2004.

The application has been amended as follows:

In claim 3, line 2, after the second "group" insert --consisting--;

In claim 4, line 3, after "group" insert --consisting--;

In claim 19, line 3, after the second "group", insert --consisting--;

In claim 20, line 3, after "group" insert --consisting--;

In claim 40, line 9, after "group" insert --consisting-- and in line 11, after "group" insert --consisting--;

In claim 43, line 2, after "group" insert --consisting--;

In claim 48, line 3, after "group" insert --consisting--; and,

In claim 49, line 2, after "group" insert --consisting--.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: the disclosures of Sandhu et al and Mayer et al are not compatible with each other. Both teach forming a "passivation layer" on a substrate to be polished, but the two different passivation layers are not compatible. One of ordinary skill in the art would not have

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been motivated to combine the non-phosphoric acid electrolyte with a chelating agent of Sandhu et al with the phosphoric acid diffusion barrier of Mayer et al. As the chelating agent of Sandhu et al reacts with the surface to form a passivation layer and the phosphoric acid diffusion barrier merely sits on top of the substrate without reacting, the two barrier layers are not compatible with each other. Each of independent claims 1, 15, 40 and 46 recite this combination of a phosphoric-acid electrolyte with both a chelating agent and corrosion inhibitor, and are therefore allowable over the prior art.

Also, Uzoh et al (IS 5,807,165) does not teach the claim limitation that the polishing article is contacted to the substrate surface *in* the electrolyte. Uzoh et al teach merely applying a layer of electrolyte on the surface, not immersing the substrate in the electrolyte as is described by using the word "in".

In addition, the present claims are allowable over Sun et al (US 2002/0148169) and Sun et al (US 6,379,223) since these references are not combinable. Sun et al '169 specifically requires the presence of oxidizing agents (i.e.-corrosion inhibitors). However, Sun et al '223, which teaches combining ECP and CMP methods for a new ECMP method, specifically prohibits the presence of oxidizing agents.

Wang et al (US 2003/0153184) teaches a similar CMP method, but does not use a phosphoric acid based electrolyte. Kondo et al (US 6,562,719) does not teach adding a chelating agent.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-Th 10:00am-8:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

hdw

Harry D Wilkins, III
Examiner
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ROY KING
SUPERVISORY PATENT EXAMINER
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